

103
TRAFFIC SPEED REPORT NO.65

SEPT., 1958
NO.24

Joint
Highway
Research
Project

PURDUE UNIVERSITY
LAFAYETTE INDIANA

by

G.E. Ingram

PROGRESS REPORT

TRAFFIC SPEED REPORT NO. 65

TO: E. B. Woods, Director
Joint Highway Research Project
September 25, 1958

FROM: H. L. Michael, Assistant Director
Joint Highway Research Project
File: 8-3-3
Project: C-36-10C

The attached Traffic Speed Report No. 65 has been prepared by Mr. G. E. Ingram, Research Engineer on our staff.

This progress report is the 1958 summer, semi-annual speed study. The speeds were obtained at the same locations as in previous years and added to the twenty years of speed data that the Project has collected.

Copies of this report will be distributed as usual to the State Police and to the Office of Traffic Safety. The report is submitted for the record.

Respectfully submitted,

Harold L. Michael, Jr.

Harold L. Michael, Assistant Director
Joint Highway Research Project

HLM:acc

Attachment

cc: A. K. Branham	R. D. Miles
J. R. Cooper	R. E. Mills
W. L. Dolch	B. H. Petty
W. H. Goets	M. S. Scott
J. T. Hallett	C. E. Vogelgesang
F. F. Havey	J. L. Waling
G. A. Hawkins	J. E. Wilson
G. A. Leonards	E. J. Yoder
J. P. McLaughlin	

PROGRESS REPORT
TRAFFIC SPEED REPORT NO. 65

by

G. E. Ingram
Research Engineer

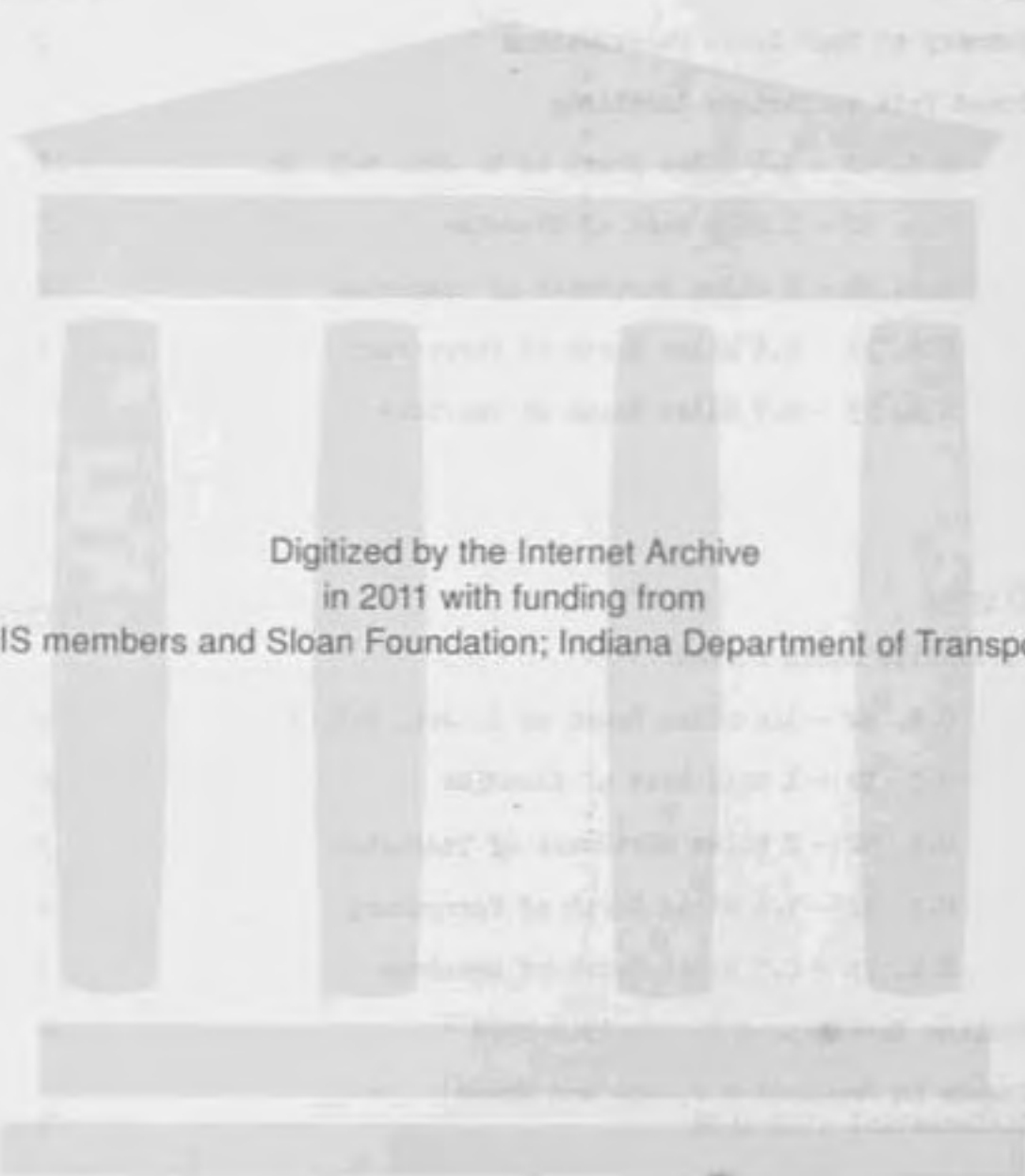
Joint Highway Research Project
File: 8-3-3
Project C-36-100

Purdue University
Lafayette, Indiana

September 25, 1958

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This report covers spot speed observations made during July and August 1958. The data were collected by the writer. All observations are for free-moving vehicles on level tangent sections of rural highways. The locations of the observation stations were as follows:

1. U.S. 52 - 1.4 Miles South of S. Jet. S.R. 28
(Dual Lanes)
2. U.S. 52 - 1 Mile West of Klondike
(Dual Lanes)
3. U.S. 52 - 2 Miles Northwest of Templeton
(2 - Lane)
4. U.S. 31 - 7.6 Miles North of Perrysburg
(2 - Lane)
5. S.R. 25 - 0.7 Miles South of Americus
(2 - Lane)

The speed observations for this study were made with an Electro-Matic Radar Speed Meter. The meter was concealed as part of a rural mailbox which was placed within several feet of the edge of the pavement and directed down the highway at a small angle with respect to the direction of traffic so that it was not necessary to apply an angle correction to the readings.

The radar equipment will not operate properly if the operating voltage of the batteries is more than 1/2 volt low or 1 volt high. The voltage, therefore, was checked periodically in the field with a

0-15 volt meter and maintained within the desired range. The radar set was also maintained in correct calibration with the aid of a 60 m.p.h. tuning fork.

The observer concealed himself from the traffic as far back from the highway as local conditions made necessary. This was possible by using a 150 foot extension cord between the meter, on which the readings were observed, and the radar unit. It is believed that, in all cases, the speed of the vehicle was observed on the meter before any driver had an idea that the radar unit was present.

A summary of the results of this study and of the last seven studies is given in Table I. Indiana State law limits the speed of passenger cars and trucks weighing less than 5,000 pounds to 65 miles per hour, while trucks weighing more than 5,000 pounds are limited to 45 miles per hour. For this reason, the truck speeds are divided into three groups, light trucks, heavy trucks, and all trucks. Because it is impractical to accurately determine the exact weight of each truck, panel and pickup types are classed as less than 5,000 pounds while dual-tired single-unit and semi-trailer types are classed as weighing over 5,000 pounds.

In order to facilitate a comparison between the present and the last previous observations at a given location, the results of the present and previous study are tabulated in Tables II through VI. All speed observations were taken at the same locations for this study, as for the last study.

The average speed for all passenger cars decreased by 0.4 miles per hour since the last study (August 1957) while the average speed for all trucks increased by 1.3 miles per hour. Indiana passenger cars decreased their average speed on two-lane highways by 1.2 miles per hour while their average speed on four-lane highways increased by 0.5 miles per hour. A decrease of 0.4 miles per hour on two-lane highways and 0.3 miles per hour on four-lane highways was noted in the average speed of out-of-state passenger cars.

The average speed for light trucks increased 1.3 miles per hour on two-lane highways and 2.3 miles per hour on four-lane highways. For heavy trucks, an increase of average speed of 0.5 miles per hour on two-lane highways and 2.4 miles per hour on four-lane highways was observed.

Trend information on the average speed of trucks and passenger cars is shown in Table I and in Figures 6 and 7.

TABLE I

SUMMARY OF SPOT SPEED OBSERVATIONS
ON INDIANA HIGHWAYS

(Free-Moving Vehicles on Level, Tangent Sections)

		Passenger Cars				Trucks		
		Ind Mean	Non-Ind Mean	All Mean	All 85 per	Light Mean	Heavy Mean	All Mean
Two-lane Highways	Aug. '54	55.0	56.8	55.7	63.8	49.9	46.0	47.1
	Dec. '54	52.0	54.1	52.8	58.8	48.2	44.4	45.2
	July '55	53.8	55.7	54.5	64.8	46.2	45.5	45.6
	Feb. '56	54.9	58.0	55.9	63.2	47.1	43.2	44.1
	Aug. '56	55.0	56.3	55.5	63.4	50.6	45.5	46.6
	May '57	55.6	59.1	56.9	64.0	50.2	44.8	46.1
	Aug. '57	55.5	56.7	55.9	62.1	51.7	45.8	47.3
	Aug. '58	54.3	56.3	55.0	61.7	53.0	46.3	47.8
Four-lane Highways	Aug. '54	55.5	58.2	56.6	65.0	52.1	45.6	47.1
	Dec. '54	54.2	55.7	54.7	60.4	47.1	43.6	44.3
	July '55	54.5	56.6	55.2	63.7	47.5	43.9	44.8
	Feb. '56	58.1	60.1	58.7	65.7	47.8	45.2	45.8
	Aug. '56	57.4	58.8	58.2	66.8	49.6	46.0	47.4
	May '57	59.9	63.6	61.0	69.0	52.2	46.0	47.9
	Aug. '57	57.5	59.9	58.5	64.8	52.0	46.6	47.6
	Aug. '58	58.0	59.6	58.7	65.0	54.3	49.0	50.0
All Highways	Aug. '54	55.1	57.3	56.0	64.2	50.5	45.9	47.1
	Dec. '54	52.7	54.3	53.4	59.3	47.8	44.0	44.8
	July '55	54.1	56.6	55.2	64.3	46.9	44.7	45.2
	Feb. '56	56.0	58.6	56.8	63.8	47.3	44.0	44.9
	Aug. '56	55.7	57.3	56.4	64.5	50.2	45.6	46.9
	May '57	57.2	60.3	58.3	66.0	50.9	45.2	46.6
	Aug. '57	56.2	58.3	56.9	63.2	51.8	46.1	47.4
	Aug. '58	55.7	57.9	56.5	63.1	53.4	47.5	48.7

TABLE
SPEED DATA

IV

Station # 3 - 2 Miles North of Templeton on U. S. 52

Surface 2 Lane 22' Bituminous

Weather Cloudy and Warm
Last Previous Observation (Speed Report No. 62)

This Observation

Last Previous Observation (Speed Report No. 62)

Date August 6, 1958Date August 29, 1957Time 11:04 A.M. - 1:13 P.M.

Time 9:30 A.M. - 11:50 A.M.

[illegible]

TABLE
SPEED DATA

Station # 5 - 7.6 Miles North of Perrysburg on U. S. 31

Surface 2 Lane 22' Bituminous

Weather Cloudy and Warm

This Observation

Last Previous Observation (Speed Report No. 62)

Date August 5, 1958Date August 31, 1957

Time 12:10 P.M. - 3:04 P.M.

Time 9:40-11:50 A.M.

[illegible]

TABLE
SPEED DATA

VI

Station # 6 - 0.7 Miles South of Americas on S.R. 25

Surface 2 Lane 22' Bituminous

Weather Cloudy and Warm

This Observation

Last Previous Observation (Speed Report No. 62)

Date August 12, 1958

Date August 28, 1957

Time 10:50 A.M.-1:34 P.M.

Time 2:00-4:00 P.M.

[illegible]

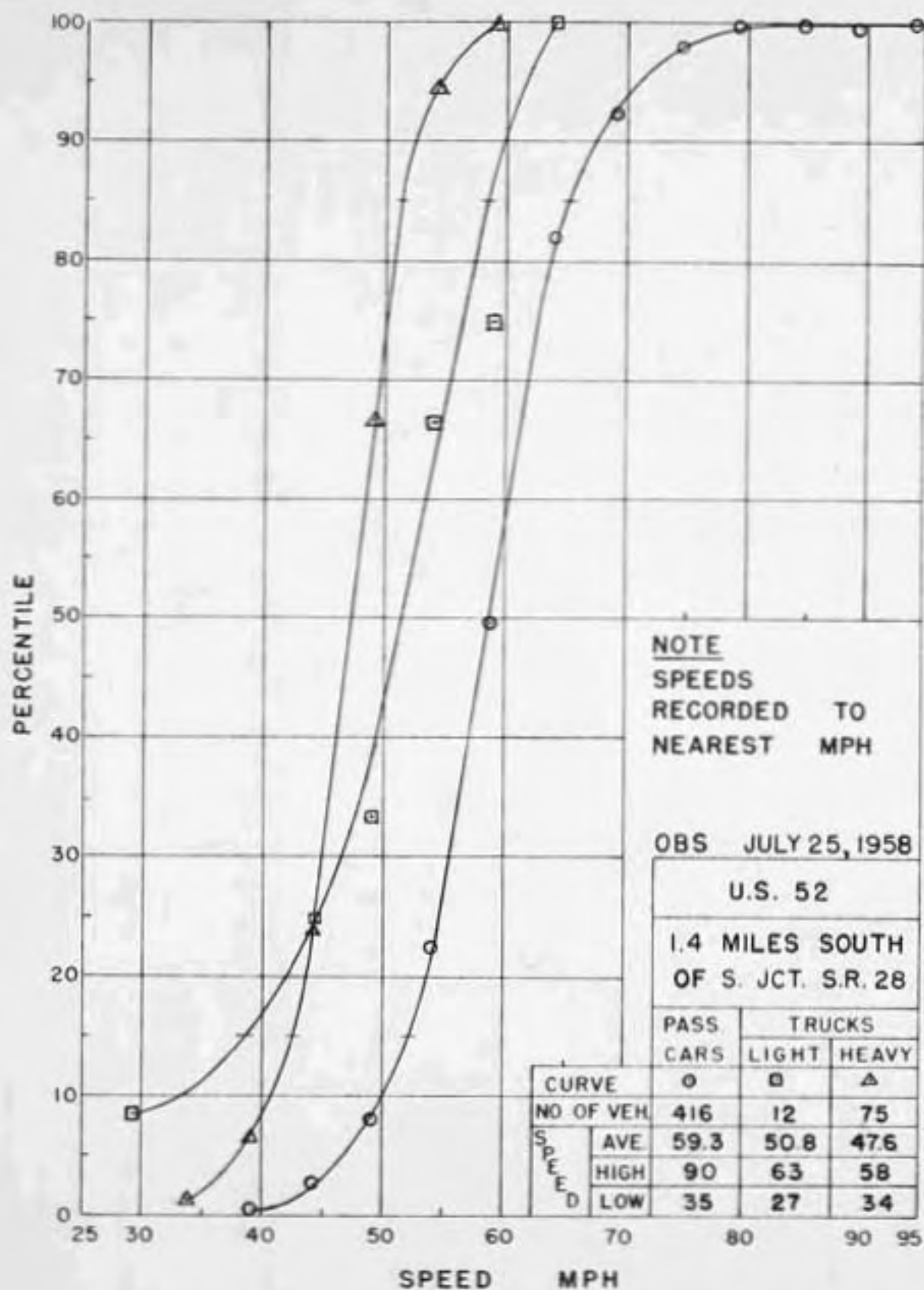


FIGURE 1

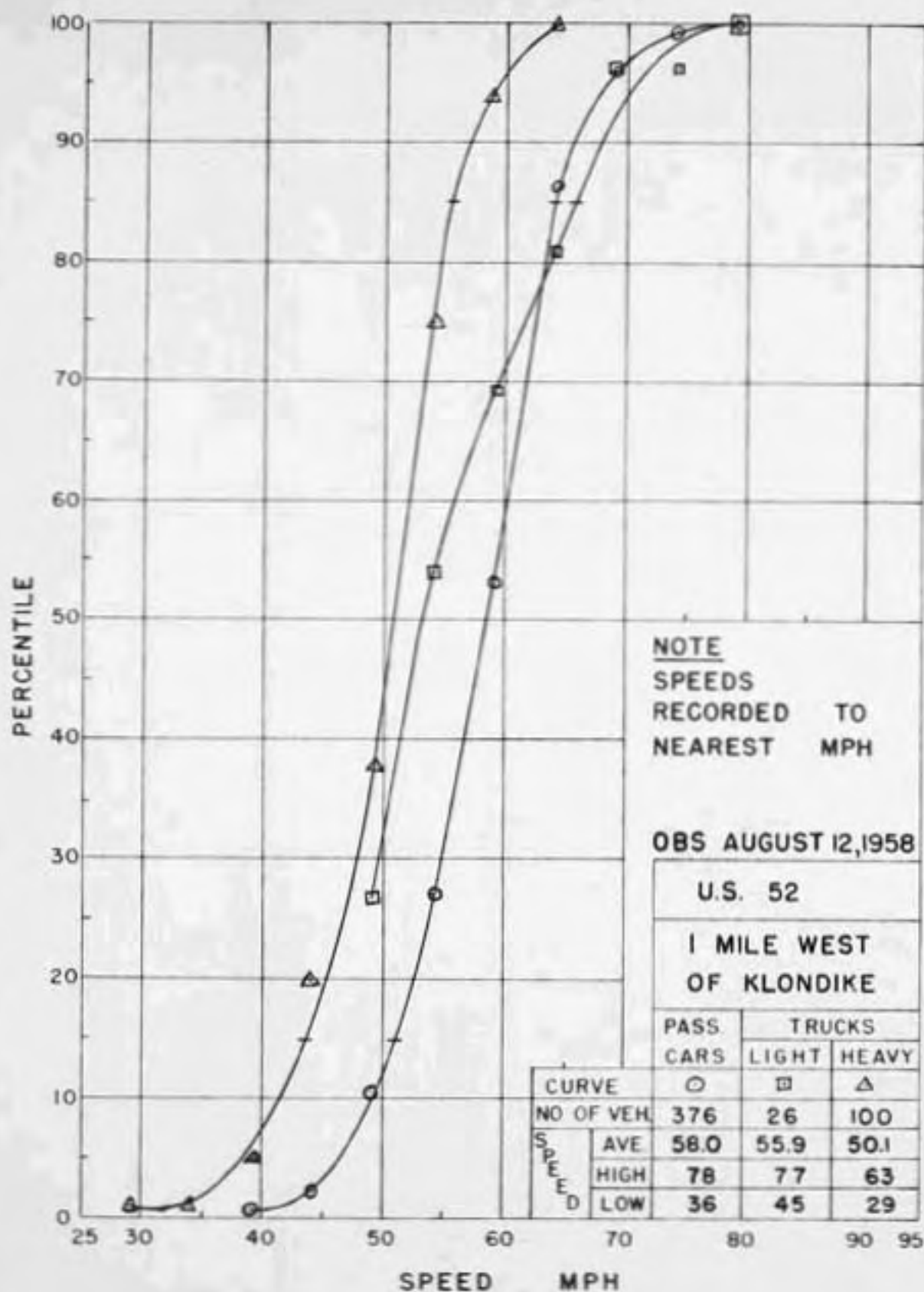


FIGURE 2

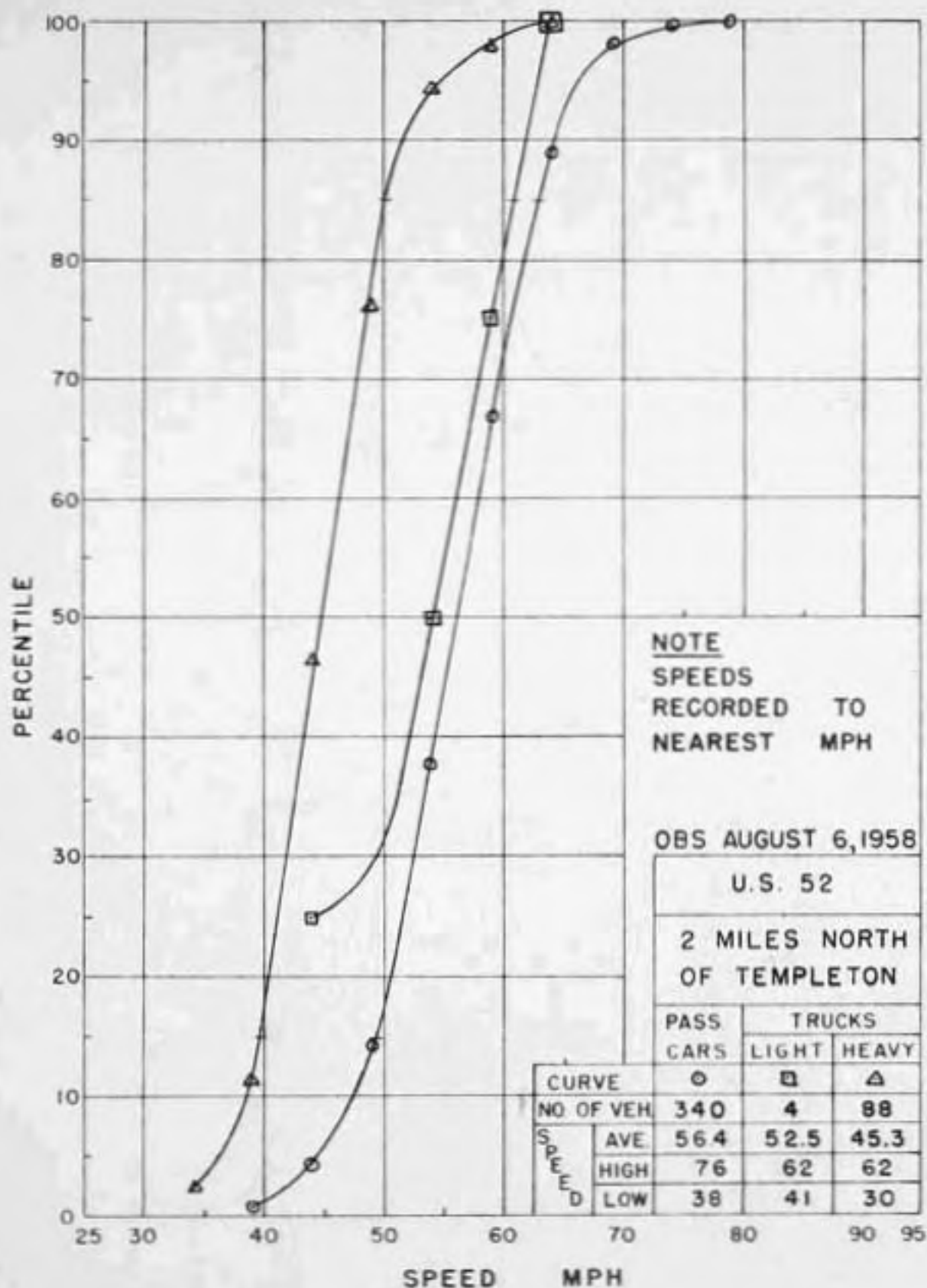


FIGURE 3

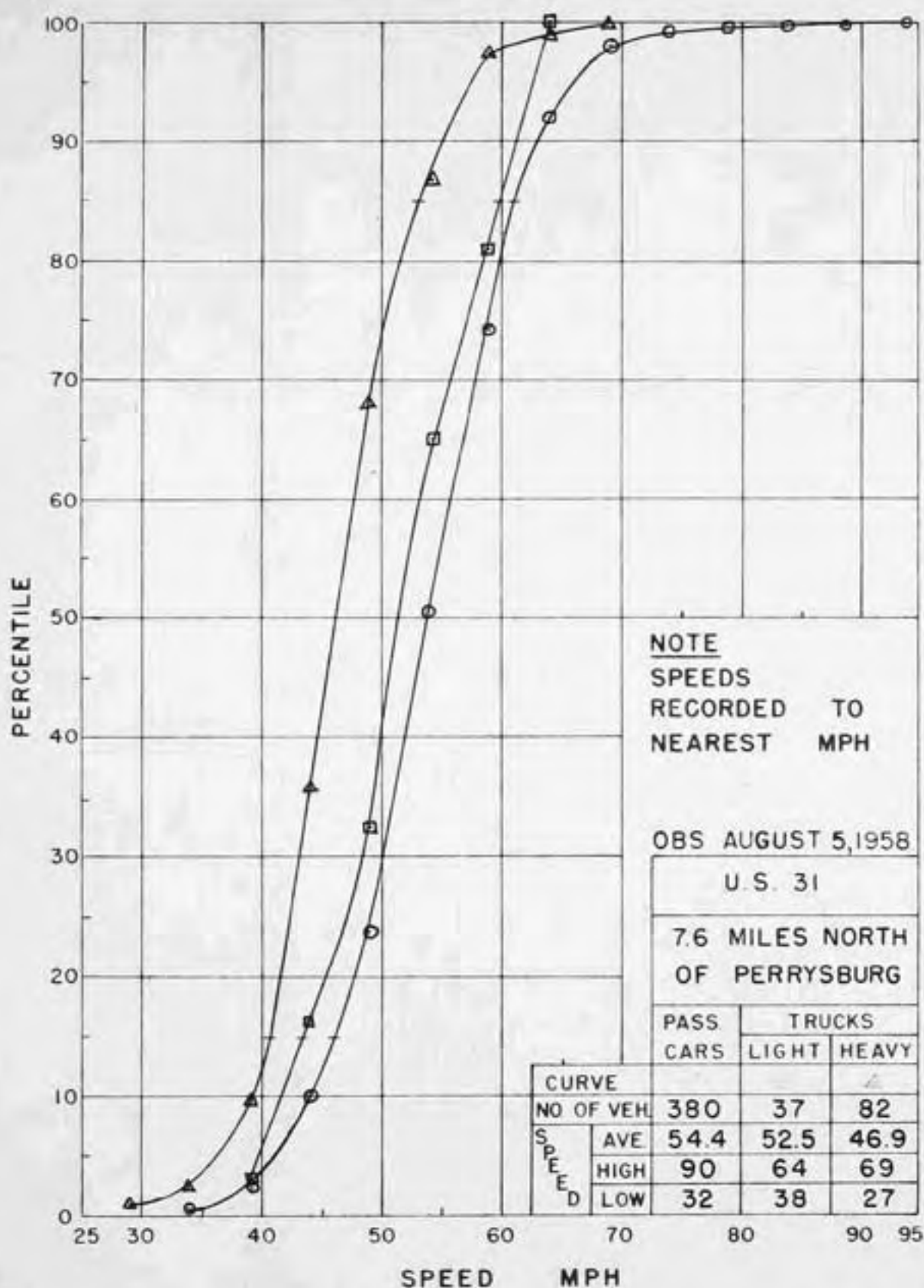


FIGURE 4

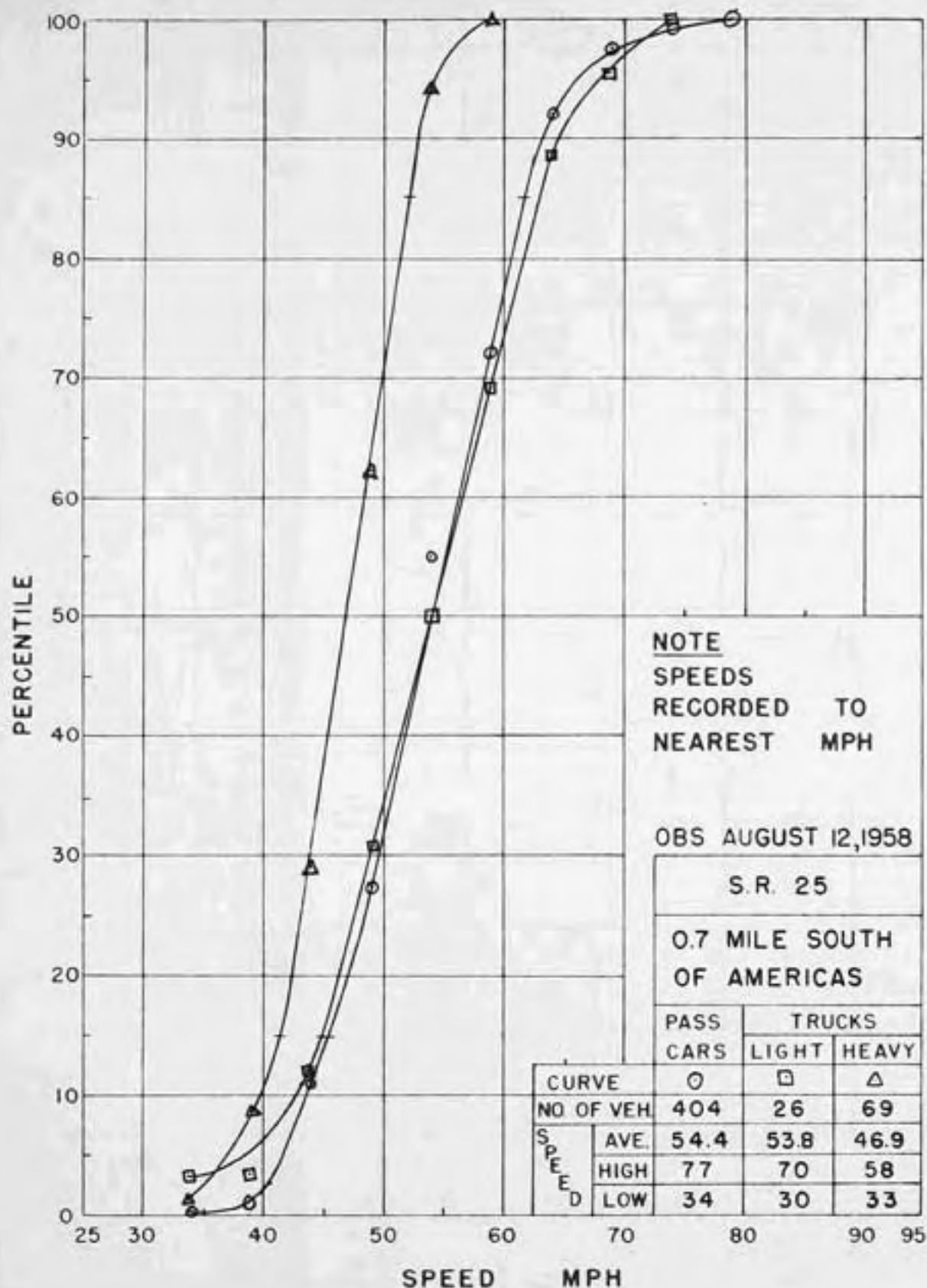
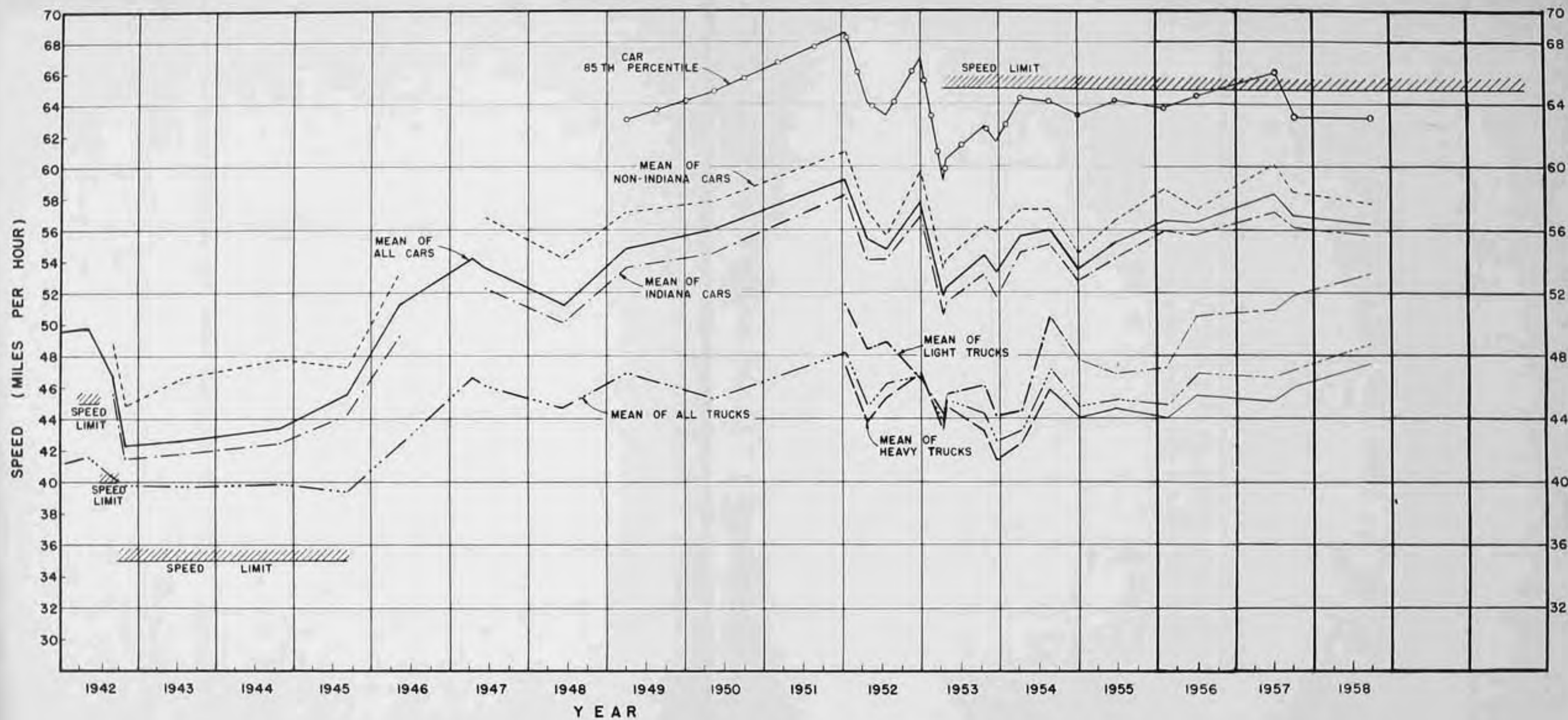
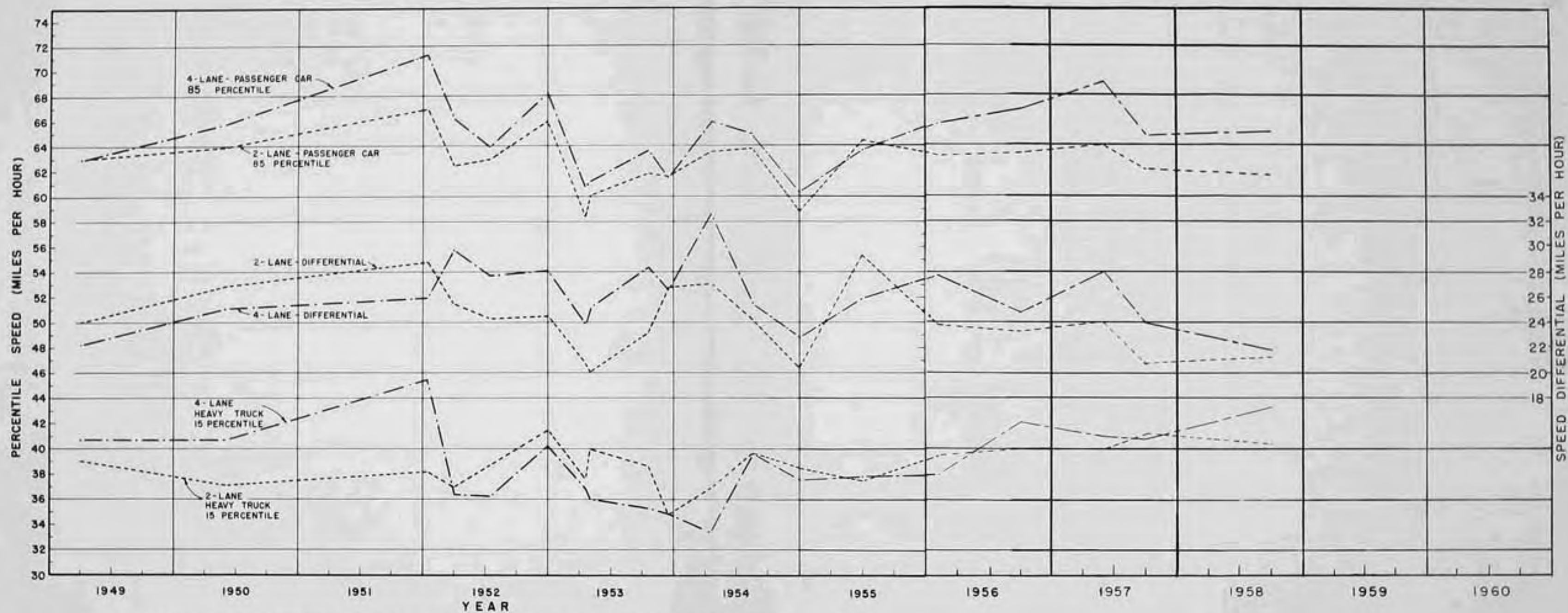


FIGURE 5



INDIANA RURAL SPEED TRENDS 1942—1960

FIG. 6



TRENDS IN PERCENTILE SPEEDS AND SPEED DIFFERENTIAL 1949—1960

FIG. 7